

REMARKS

This is in response to the Office Action that was mailed on July 1, 2005. Claims 6, 10, 14, and 18 are cancelled, without prejudice, to expedite prosecution of this application. Claim 1 is amended based upon disclosure including that in lines 11-22 on page 3 of the specification (the mol% ranges) and that working Examples 5 and 11 (the contact angle upper limit). New claims 20-23 are added, directed to various aspects of the invention disclosed in the present application. No new matter is introduced by this Amendment. Entry of this Amendment – in order to place the application into condition for allowance or into better condition for appeal – is respectfully solicited. With this Amendment, claims 1-5, 7-9, 11-13, 15-17, and 19-23 are pending in the application.

Claim 18 was rejected under the first paragraph of 35 U.S.C. §112. This ground of rejection is rendered moot by the proposed cancellation of claim 18.

THE INVENTION. The present invention provides a polyether-containing hydrophilic polyorganosiloxane composition that cures well and that also has an improved stability sufficient to prevent separation out of the polyether component over time. The polyorganosiloxane composition of the present invention cures into a product having satisfactory hydrophilic properties.

In accordance with the present invention, the polyorganosiloxane composition having these beneficial features is obtained by using a *curable organopolysiloxane* – that is, an organopolysiloxane that has curable or crosslinkable groups such as silicon atom-bonded alkenyl groups for hydrosilylation reaction curing or organic peroxide curing or silanol groups or silicon-atom bonded hydrolysable groups for condensation reaction curing. These curable organopolysiloxanes contain 10 to 50 mol% of diphenylsiloxane units or 20 to 50 mol% of methylphenylsiloxane units in their base polymer. The specified organopolysiloxanes are combined with a polyether to form the presently claimed compositions.

The compositions of this invention cure readily into products that are highly hydrophilic. This hydrophilicity is confirmed by contact angles of up to 55° when measured in accordance with JIS R3257. Even after long term storage, the polyorganosiloxane compositions of the invention resist separation out on the part of the polyether components, both in the uncured and in the cured state. The presently claimed compositions are thus effective for minimizing variations of a coating of aqueous paint applied thereon and also for minimizing variations in impressions made in specimens of the compositions.

Claims 1-5, 8, 9, and 16-17 were rejected under 35 U.S.C. §102(b) as being anticipated by WO 00/61074 (Del Torto). The Examiner refers in the statement of the rejection to Del Torto's corresponding US 6,762,242 B1. ***The Examiner is respectfully requested to make US 6,762,242 B1 of record on a Form PTO-892.*** Claims 1-7 and 12-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over US 5,786,414 (Chikuni). Claims 1, 2, 4, 7, 8, 11, 12, 15, 16, and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over US 3,070,566 (Nitzsche) in view of US 4,657,959 (Bryan) or Chikuni. Claims 1-6, 8-10, 17, and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over US 5,415,544 (Oxman) in view of Chikuni. Each of these rejections is respectfully traversed.

The Del Torto, Chikuni, Nitzsche, Bryan, and Oxman references all fail to enable or suggest a hydrosilylation reaction (addition reaction)-curable or condensation reaction-curable organopolysiloxane composition comprising curable organopolysiloxane (A) containing a large amount of phenyl groups – that is, 10 to 50 mol% of diphenylsiloxane units or 20 to 50 mol% of methylphenylsiloxane units – whereby a cured product having a small contact angle – that is, a contact angle of up to 55° as measured according to JIS R3257 – can be obtained.

Chikuni discloses an organopolysiloxane composition in Example 7 comprising dimethylpolysiloxane having 5 mol% of diphenylsiloxane units and dicumyl peroxide. Since this composition is organic peroxide-curable, it is significantly different from the invention of present

claims 1-5, 7-9, 11-13, 15-17, and 19-21, in which the compositions are cured by means of a hydrosilylation reaction or a condensation reaction.

The relative amounts of diphenylsiloxane units and methylphenylsiloxane units specified in the present invention are crucial, as can be seen from the following analysis of the Examples and Comparative Examples in the present specification:

<i>For hydrosilylation reaction curing systems</i>	
Examples 1 to 6	Diphenylsiloxane units 30 mol%
Examples 10 to 12	Diphenylsiloxane units 15 mol%
Examples 7 to 9	Diphenylsiloxane units 10 mol%
Comparative Examples 1 to 3	Diphenylsiloxane units 0 mol%
Comparative Example 4	Diphenylsiloxane units 3 mol%

<i>For condensation reaction curing systems</i>	
Examples 13 to 16	Diphenylsiloxane units 20 mol%
Example 18	Diphenylsiloxane units 14 mol%
Example 17	Diphenylsiloxane units 10 mol%
Comparative Examples 5 to 8	Diphenylsiloxane units 0 mol%

This data provides evidence that 10 to 50 mol% of diphenylsiloxane units and 20 to 50 mol% of methylphenylsiloxane units are critical to prevent separation of polyether over time from a cured product having satisfactory hydrophilic properties.

Moreover – in addition to polyether separation stability – the present invention enables cured compositions that have contact angles only of up to 55°. In contrast, the Del Torto contact angle is 61.1°. The Del Torto disclosure does not enable the preparation of a cured composition having a relatively small contact angle, as does the present invention. The other references cited

Application No. 10/724,221
Amendment dated September 29, 2005
After Final Office Action of July 1, 2005

Docket No.: 0171-1044P

by the Examiner do not disclose contact angles at all, and therefore fail to lead those of ordinary skill in the art to this compositional advantage.


Withdrawal of all rejections of record – and passage of the present application to Issue – is respectfully solicited.

Should there be any outstanding issues to be resolved in the present application, the Examiner is respectfully requested to contact Richard Gallagher (Reg. No. 28,781) at (703) 205-8008.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: September 29, 2005

Respectfully submitted,

By  #28,781
Gerald M. Murphy, Jr.
Registration No.: 28,977
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Rd
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant